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(54) Title: **DETECTION OF MUTATIONS**

(57) **Abstract:** The present invention relates to a polypeptide which is a flavin-containing monooxygenase 3 (FMO3), wherein said FMO3 is a polypeptide comprising at least a sequence having at least 85% identity with the polypeptide sequence SEQ ID NO: 15, in particular to a polypeptide which is a functionally altered mutant of flavin-containing mono oxygenase 3 (FMO3) leading to a buildup of trimethylamine in an animal. Further, the invention relates to nucleic acid sequences encoding said polypeptide, and to the complements of such nucleic acid sequences. Such nucleic acid sequences and fragments thereof may be useful e.g. as primers. The invention further relates to various methods for determining the presence in e.g. a nucleic acid sample of a nucleic acid sequence encoding a mutated FMO3 polypeptide.

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